Mohican-Battenkill Rebuild Project

Appendix U

Quality Control Plan

Mohican - Battenkill Rebuild Project
Project Materials Quality Control & Quality Assurance Plan

The following document details the methodology to be employed on the Mohican - Battenkill Rebuild Project to demonstrate that those materials required to safely construction the new facilities have been furnished in accordance with the appropriate industry and National Grid standards.

Reporting and Document Management

All reports associated with material quality review shall be made available to the internal project team via Documentum and to external stakeholders via the Project Specific SharePoint Site.

The Project Engineer shall be the point of contact between the vendor and National Grid. The Project Engineer or designee shall be responsible for the timely review and response to any technical or fabrication issues encountered.

Steel Pole Structures & Anchor Bolts

The following requirements shall be imposed on all steel pole vendors and their designees associated with the Project as part of the bid documents associated with steel pole procurement.

National Grid requires that the steel pole vendor provide pricing and coordinate the inspection of all materials furnished as part of this request for quote by a qualified independent third part inspector. The qualifications of the individual or individuals shall be subject to the review and approval by National Grid. Results of inspections and confirmation of all required remedies executed to bring the product into conformance with National Grid Standards and accepted manufacturer's drawings shall be provided directly to the Project Engineer and Alternate by the inspector prior to the shipment of the applicable materials. At no point in time will it be permissible for the vendor to furnish materials in advance of the inspection of the third party inspector.

The name and qualifications of the inspection firm and inspector are a requirement of the bid submittal. National Grid will review the experience and qualifications of all third party inspectors proposed by each vendor to ensure that well qualified individuals will be performing the reviews. Once a preferred vendor has been selected, the name of the firm, inspector(s), and qualifying documents as submitted as part of the bid proposal shall be provided to the Department of Public Service Staff.

Third party inspectors will be reviewing each steel pole and associated anchor bolt cluster (where applicable) for the following:

- Straightness
- Welding
  - Performed in conformance with industry standards
  - Executed per approved vendor drawings
- Dimensions of all steel pole elements conform to approved vendor drawings
- Steel pole elements configured per the approved vendor drawings
- Steel pole finish is per National Grid bid documents

- Anchor bolt clusters furnished per approved vendor anchor bolt drawings

A checklist has been developed to track conformance with the above considerations. This checklist is part of the bid documents associated with the steel pole structures and their associated anchor bolts and is provided as Attachment 1 to this document. Following receipt of materials at the project specific marshalling yard location(s), the material coordinator shall verify that the quantities of materials received are identical to those provided in association with the manufacturer's fabrication drawings.

To ensure the quality of materials utilized to fabricate the steel pole structures and associated foundations (either anchor bolt or vibratory caisson), the vendor shall be required to submit mill testing reports for the steel used to fabricate all elements of the steel pole structure and associated anchor bolt clusters.

Lastly, the steel pole vendor shall be required to submit calculations and fabrication drawings bearing the seal of a Professional Engineer licensed in the State of New York.

Concrete

Use of concrete supplier shall be based on the selection of the Construction Contractor. The contractor shall be required to conform to Section 17 of SP.06.01.301 unless otherwise approved for specific justifiable reasons by the Project Engineer or Designee. All concrete mix designs shall be submitted to the Project Engineer following the award of the construction contract associated with the Project. Seven (7) day and 28 day break tests shall be required as part of the Project and reviewed by the Project Engineer. All concrete test samples shall be taken in accordance with ACI 336.1.

Reinforcing Steel

The procurement of reinforcing steel shall be the responsibility of the Construction Service Provider with the exception of any anchor bolt clusters (see Steel Pole Structures & Anchor Bolts above). All reinforcing steel purchased in association with the Project shall conform to National Grid Document SP.06.01.402 "Reinforcing Steel". Prior to installation, the reporting requirements set forth in Section 2.2 of SP.06.01.402 shall be met with documentation provided to the Project Engineer for review and acceptance prior to installation. National Grid Document SP.06.01.402 is included as Attachment 2 to this document.

Conductor

The following requirements have been imposed on the all conductor vendors and their designees associated with Project as part of the bid documents associated with conductor procurement.

All conductor associated with this bid package shall be subject to the review of conformance with industry standards and good practice prior to shipment to National Grid. The selected bidder shall provide the following to minimum information to demonstrate compliance -
1 - Formal documentation of conformance with all applicable ASTM Standards referenced in document SP.06.01.418

2 - Formal documentation that the finish of all wires furnished have a non-specular finish in accordance with ASTM B.979
3 - Formal documentation of conformance with all packaging requirements associated with the project specific specifications

All documentation shall be provided to the Project Engineer a minimum of ten (10) working days prior to shipment from the manufacturer for review. Shipment of materials shall not be made without confirmation from the Project Engineer or designee.

National Grid specification SP.06.01.418 is provided as Attachment 3 to this document.

Insulators

All insulators procured for the Project shall conform to National Grid document SP.06.01.420 “Porcelain and Toughened Glass Insulators” and all insulators supplied in association shall be dark brown in color. Document SP.06.01.420 is supplied as Attachment 4 to this document.

Vendors shall be required to provide documentation of batch conformance with ANSI 29.2 and the applicable version of ANSI 52 strength rating (52-3 for 20 kip insulators and 52-5 for 30 kip insulators). This documentation shall be provided to the Project Engineer prior to shipment of the materials to the project marshalling yard(s).

Transmission Line Hardware

All hardware furnished in association with the Project shall be done be sourced from Type Registered suppliers. Hardware shall be furnished in structure specific kits as outlined in material package “101010-G-2B-M-03” (pending). Documentation of batch conformance with all applicable ANSI and ASTM standards for all materials furnished shall be provided by the supplier prior to shipment of hardware kits. At no time will it be permissible for shipment to occur prior to the submission of quality control reports associated with all elements contained within a specific kit.

Attachment 1
Steel Pole QA/QC Checklist

Mohican - Battenkill Rebuild Project

Steel Pole Quality Control & Quality Assurance Checklist

Inspector Name:	
Company:	
Manufacturer Name:	
Manufacturer Location:	

Each cell to be populated with either "Accept" or "Reject" followed by date of inspection (e.g. - Accept - 01-01-14)

	Steel Pole Elements							Anchor Bolt Elements		
Structure Number	**Manufacturer Drawing Number**	**Conforms with Approved Drawings**	**Straightness Inspection**	**Weld Inspection**	**Dimensional Inspection**	**Correct Finish**	**QA Complete**	**Anchor Bolt Drawing Number(s)**	**Conforms with Approved Anchor Bolt Drawing**	**Notes**
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										

Mohican - Battenkill Rebuild Project

Steel Pole Quality Control & Quality Assurance Checklist

Inspector Name:	
Company:	
Manufacturer Name:	
Manufacturer Location:	

Each cell to be populated with either "Accept" or "Reject" followed by date of inspection (e.g. - Accept - 01-01-14)

	Steel Pole Elements							Anchor Bolt Elements		
Structure Number	**Manufacturer Drawing Number**	**Conforms with Approved Drawings**	**Straightness Inspection**	**Weld Inspection**	**Dimensional Inspection**	**Correct Finish**	**QA Complete**	**Anchor Bolt Drawing Number(s)**	**Conforms with Approved Anchor Bolt Drawing**	**Notes**
40										
41										
42										
43										
44										
45										
46										
47										
48										
49										
50										
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										
61										
62										
63										
64										
65										
66										
67										
68										
69										
70										
71										
72										
73										
74										
75										
76										
77										
78										

Mohican - Battenkill Rebuild Project

Steel Pole Quality Control & Quality Assurance Checklist

Inspector Name:	
Company:	
Manufacturer Name:	
Manufacturer Location:	

Each cell to be populated with either "Accept" or "Reject" followed by date of inspection (e.g. - Accept - 01-01-14)

	Steel Pole Elements							Anchor Bolt Elements		
Structure Number	**Manufacturer Drawing Number**	**Conforms with Approved Drawings**	**Straightness Inspection**	**Weld Inspection**	**Dimensional Inspection**	**Correct Finish**	**QA Complete**	**Anchor Bolt Drawing Number(s)**	**Conforms with Approved Anchor Bolt Drawing**	**Notes**
79										
80										
81										
82										
83										
84										
85										
86										
87										
88										
89										
90										
91										
92										
93										
94										
95										
96										
97										
98										
99										
100										
101										
102										
103										
104										
105										
106										
107										
108										
109										
110										
111										
112										
113										
114										
115										
116										
117										

Mohican - Battenkill Rebuild Project

Steel Pole Quality Control & Quality Assurance Checklist

Inspector Name:	
Company:	
Manufacturer Name:	
Manufacturer Location:	

Each cell to be populated with either "Accept" or "Reject" followed by date of inspection (e.g. - Accept - 01-01-14)

	Steel Pole Elements							Anchor Bolt Elements		
Structure Number	**Manufacturer Drawing Number**	**Conforms with Approved Drawings**	**Straightness Inspection**	**Weld Inspection**	**Dimensional Inspection**	**Correct Finish**	**QA Complete**	**Anchor Bolt Drawing Number(s)**	**Conforms with Approved Anchor Bolt Drawing**	**Notes**
118										
119										
120										
121										
122										
123										
124										
125										
126										
85A										
85B										
72										
73										
74										
75										

Attachment 2
SP.06.01.402 - “Reinforcing Steel”

Reinforcing Steel

Table of Contents

1.0 General

1.1 The scope of work includes furnishing, fabrication and delivery of deformed reinforcing steel, tie wires and bar supports for concrete foundations.

2.0 Reinforcing Steel

2.1 Reinforcing steel shall be deformed bars for concrete reinforcement conforming to ASTM A615-09, Grade 60.

2.2 Certified mill test reports are required for each heat. Certificates of conformance to ASTM A615 requirements are also required upon request for each heat.

2.3 Reinforcing bar sizes and quantities shall be as indicated in the supplemental specification.

2.4 Steel shall be cut and bent in accordance with the Drawings such that field cutting or bending will not be required.

3.0 Tie Wire

3.1 Tie wire shall be 16.5 gauge or heavier, black annealed, conforming to the standards established by the Concrete Reinforcing Steel Institute.

3.2 Tie wire quantity shall be as indicated in the supplemental specification

4.0 Bar Supports

4.1 Bar supports shall be precast concrete blocks meeting the standards established by the Concrete Reinforcing Steel Institute. Blocks shall have a minimum compression strength of 6,000 psi.

5.0 Packaging and Marking

5.1 Marking shall be in accordance with ASTM A615-09 and the Supplier's standard practices.

5.2 Packaging shall be in accordance with ASTM A700-05 and the Supplier's standard practices.

Revision History

Version	Date	Revision	Author	Reviewer	Approver
1.0	03/07/06	Initial Issue			Mark Browne
2.0	10/08/10	Conductor periodic document review -Removed specifications for drawing creation and bar bundles, these services are not required	Jeremy Cote		Mark Browne

Attachment 3
SP.06.01.418 – “Overhead Transmission Line Conductors”

Overhead Transmission Line Conductors

Table of Contents

1.0 General

1.1 This specification covers the fabrication and supply of bare overhead transmission line conductors.

1.2 Upon request by the Owner, the Manufacturer at its expense shall provide proof of conformance with any or all requirements of this specification.

1.3 Upon request by the Owner, the Manufacturer at its expense shall provide, a qualified on-site technical field representative to provide advice and guidance during conductor stringing, sagging, or clipping-in.

2.0 Definitions

2.1 Owner – National Grid

2.2 Manufacturer – the entity responsible for manufacturing and providing the conductor

3.0 References

3.1	ASTM B979	Aluminum Association Non-Specular Surface Finish on Bare Overhead Aluminum Conductors
3.2	ASTM B193	Standard Test Method for Resistivity of Electrical Conductor Materials
3.3	ASTM B230	Standard Specification for Aluminum 1350-H19 Wire for Electrical Purposes
3.4	ASTM B231	Standard Specification for Concentric-Lay-Stranded Aluminum 1350 Conductors
3.5	ASTM B232	Standard Specification for Concentric-Lay-Stranded Aluminum Conductors, Coated-Steel Reinforced (ACSR)
3.6	ASTM B398	Standard Specification for Aluminum-Alloy 6201-T81 Wire for Electrical Purposes
3.7	ASTM B399	Standard Specification for Concentric-Lay-Stranded Aluminum-Alloy 6201-T81 Conductors
3.8	ASTM B498	Standard Specification for Zinc-Coated (Galvanized) Steel Core Wire for Use in Overhead Electrical Conductors
3.9	ASTM B500	Standard Specification for Metallic Coated Stranded Steel Core for Use in Overhead Electrical Conductors
3.10	ASTM B524	Standard Specification for Concentric-Lay-Stranded Aluminum Conductors, Aluminum-Alloy Reinforced (ACAR, 1350/6201)
3.11	ASTM B557	Standard Test Methods for Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products

3.12 ASTM B802 Standard Specification for Zinc-5% Aluminum-Mischmetal Alloy-Coated Steel Core Wire for Aluminum Conductors, Steel Reinforced (ACSR)

3.13 ASTM B856 Standard Specification for Concentric-Lay-Stranded Aluminum Conductors, Coated Steel Supported (ACSS)

3.14 ASTM B857 Standard Specification for Shaped Wire Compact Concentric-Lay-Stranded Aluminum Conductors, Coated-Steel Supported (ACSS/TW)

3.15 ASTM B941 Standard Specification for Heat Resistance Aluminum-Zirconium Allow Wire for Electrical Purposes

3.16 NEMA WC-26 Binational Wire and Cable Packaging Standard

4.0 Standards

4.1 Conductors shall meet the applicable requirements of the ASTM standards indicated in Table 1.

Table 1 ASTM Standards

Type	B193	B230	B231	B232	B398	B399	B498	B500	B524	B557	B802	B856	B857	B941
AAC		X	X											
AAAC					X	X								
ACAR		X			X				X					
ACSR		X		X			X	X			X			
ACSS											X	X		
ACSS/TW											X		X	
ACCR[1]	X									X				X

5.0 Materials and Manufacturing Processes

5.1 The wires for conductors other than ACCR shall be either continuously cast or hot rolled. The reinforcing wires for ACSR shall be standard galvanized (Class A) steel unless otherwise specified. The galvanizing shall be done either by the hot-dipped or electro-magnetic process. Alternate coatings shall be subject to the approval of the Owner.

5.2 Reinforcing steel core wire for ACSS shall be coated with Class A, Zinc-5% Aluminum-Mischmetal Alloy conforming to ASTM B802 suitable for continuous operating temperatures up to 250°C.

6.0 Fabrication

6.1 Conductor shall be stranded so as to minimize the tendency for the individual wires to fly apart when the conductor is cut in preparation for splicing for dead-ending. Forming processes for the conductor shall conform to the applicable

[1] ACCR shall comply with the proprietary specifications of 3M as contained in the Type Registration for this product.

ASTM specifications. Preforming of the aluminum wires is desirable, but not required by these Provisions.

6.2 Conductor stranding processes shall conform to the applicable ASTM or proprietary specifications according to Table 1.

6.3 Conductor shall be suitable for stringing and tensioning under the controlled-tension method, and free of any tendency to “birdcage” or have humped or popped strands.

7.0 Testing and Inspection

7.1 The Manufacturer shall maintain a quality control program in accordance with appropriate ASTM standards.

8.0 Finish

8.1 Conductors shall have non-specular surface finish in accordance with ASTM B979.

9.0 Packaging

9.1 Reels shall conform to NEMA WC-26.

9.2 The minimum drum diameter shall be 20 times the outside diameter of conductor.

9.3 Conductor shall be provided on the reel specific to the conductor type and size listed in Appendix A.

9.4 The length of conductor on each reel shall be the length listed in Appendix A. The length of conductor on a reel may not be less than the length required. The length may exceed the length required by no more than 100 feet or five percent whichever is less..

9.5 Reels and reel components shall be constructed of steel. Wood and wood components shall not be used.

9.6 Reels shall be Class 1 steel fluted reels meeting the requirements of Section 2.1.2 of NEMA WC-26, except that Class 2 Steel Fluted reels shall be used if needed to support the conductor weight and/or movement/transportation loads.

9.7 Reels shall use Level 4 protective coverings as defined in NEMA WC-26 Section 4. Packaging material shall be weather resistant solid fiberboard in accordance with Table 4-2 of NEMA WC-26.

9.8 No paper or other type of material shall be placed between the layers of the spooled conductor.

9.9 Arbor hole diameters shall meet the requirements of NEMA WC-26 Section 2. The arbor hole shall be flush with the cross arms, and it shall not protrude beyond the edge of the cross arms. Additionally, the arbor hole shall be free of any tubing connecting the arbor holes from each flange.

9.10 All reels shall contain a minimum of 4 drive pin holes. There shall be a minimum of 2 holes on each flange 180° apart from each other. The drive pin holes shall be located on the reel crossarms. The drive pin holes shall be flush with the

arbor hole. The drive pin holes shall be 1.75 inches (+/- 0.25 inches) in diameter and shall be located on the reel at a minimum radius of 10 inches and maximum radius of 15 inches from the center of the arbor hole.

9.11 The “tail” (final few inches of the spooled conductor) shall be well-secured to the reel.

9.12 Marking shall conform to NEMA WC-26 Section 5 and include the following additional information

9.12.1 Project name

9.12.2 National Grid purchase order number

9.12.3 Conductor size, type and name

9.12.4 Length of conductor on reel

9.12.5 Gross, net and tare weight of reel

9.12.6 Manufacturer name

9.12.7 Date of manufacture and run number

9.12.8 Reel serial number

Appendix A – Reel Requirements for Various Conductor

Size		Type	Name	National Grid Conductor ID (SAP)	National Grid Conductor ID (Legacy)	Reel Designation (see Note 1)	Conductor Length on Reel (feet)
4/0	AWG	ACSR	Penguin	9316034	4035211	RM 40.24	5400
336.4	kcmil	ACSR	Oriole	9316036	4035207	RM 48.24	4100
336.4	kcmil	AAC	Tulip	9316037	4035204	RM 48.24	4000
336.4	kcmil	ACSR	Merlin	9315752	4035236	RM 48.24	3795
336.4	kcmil	ACSR	Linnet	9314933	4035223	RM 60.32	8205
394.5	kcmil	AAAC	Canton	9313276	5941537	RM 48.24	4500
465.4	kcmil	AAAC	Cairo	9301948	5106564	RM 48.24	3700
477	kcmil	AAC	Cosmos	9314655	811125	RM 48.24	4245
477	kcmil	ACSR	Hawk	9302780	5941551	RM 48.24	5785
477	kcmil	ACSR	Pelican	9301947	5106565	RM 54.32	4800
605	kcmil	ACSR	Squab			RM 60.32	5100
628.7	kcmil	ACSR		9301946	5106568	RM 60.32	5200
636	kcmil	AAC	Orchid	9302815	5941609	RM 66.32	6200
636	kcmil	ACSR	Swift	9301945	5106569	RM 60.32	5200
636	kcmil	ACSR	Egret	9301944	5106570	RM 66.32	5300
795	kcmil	AAC	Arbutus	9302781	5941790	RM 66.32	4960
795	kcmil	ACSR	Condor	9302831	5941794	RM 72.36	5770
795	kcmil	ACSR	Tern	9301935	5106571	RM 72.36	6300
795	kcmil	ACSR	Mallard	9301934	5106572	RM 72.36	5500
795	kcmil	ACSR	Drake	9315757	4035224	RMT 90.45	10400
795	kcmil	ACSR	Coot	9315767	4035243	RM 66.32	5300
900	kcmil	AAC	Cockscomb	9302830	5941779	RM 72.36	6200
954	kcmil	ACSR	Rail	9313275	5941805	RM 72.36	5400
954	kcmil	ACSR	Cardinal	9302827	9302827	RMT 90.45	9600
1024.5	kcmil	ACAR		9387238	9387238	RMT 90.45	9700
1033.5	kcmil	ACSR	Ortolan	9387346	9387346	RMT 84.45	6000
1113	kcmil	AAC	Marigold	9302829	5941813	RM 78.36	4900
1113	kcmil	ACSR	Finch	9302828	5941814	RMT 96.60	13300
1192.5	kcmil	ACSR	Bunting	9315751	4035241	RMT 84.45	5100
1192.5	kcmil	ACSR	Grackle	9315750	4035242	RMT 84.45	5000
1351.5	kcmil	ACSR	Dipper	9315701	4016010	RMT 84.45	4400
1590	kcmil	AAC	Coreopsis	9302663	5949715	RMT 84.55	4800
1590	kcmil	ACSR	Falcon	9302827	5941913	RMT 96.60	12600
1703	kcmil	ACAR		9301932	5106573	RMT 96.71	9200
2156	kcmil	ACSR	Bluebird	9302826	5941920	RMT 108.85	9300
2167	kcmil	ACSR	Kiwi	9315769	4035245	RMT 96.71	6900
2335	kcmil	ACAR		9301931	5106574	RMT 96.71	6900
2839.8	kcmil	ACSR				RMT 96.71	5200

Note 1: The six or seven characters in the reel designation are interpreted as follows: The letters identify the reel type. The first two numbers represent the flange diameter of the reel in inches. The second two numbers represent the traverse of the reel in inches. Refer to NEMA WC-26 for further information.

Revision History

Version	Date	Revision	Author	Reviewer	Approver
1.0	2/22/08	Original Issue	Mark Browne/Jeremy Cote		Mark Browne
1.1	04/30/08	Changed requirement for conductor core wires to Class A galvanizing	Jeremy Cote		Mark Browne
1.2	07/07/08	Revised ACSS and general specification	Jeremy Cote		Mark Browne
1.3	03/05/09	Added requirement for returnable metal reels and heavy wood lagging	Jeremy Cote		Mark Browne
2.0	03/30/10	Conducted document review per PR.06.01.003 and PR.06.01.016 -Removed section on standard conductors (not relevant to this specification) -Added standard packaging requirements -Added specifications for ACAR and AAAC	Jeremy Cote	Sara Migdal	Mark Browne
2.1	03/21/11	Updated Table 1:ASTM Table and added non-specular specification Completed minor revisions to incorporate ACCR	Natasha Deschene Jeremy Cote		Mark Browne
2.2	11/15/2012	Updated Appendix A with new SAP ID numbers.	Phyllis Wall	Lisa Sasur	Mark Browne
3.0	02/08/2013	-Added requirement that reel must be steel -Added additional requirements for arbor holes and drive pin holes -Added section 8.6 (no paper between reels) and 8.9 (tail should be well secured) -Deleted section about F.O.B. delivery	Natasha Deschene		Mark Browne
3.1	3/3/2014	-Revised reel sizes to meet aluminum association reel code. -AA C7.69 Aluminum Association Non-Specular Surface Finish on Bare	Natasha Deschene	Brian Reynolds	Mark Browne

	Overhead Aluminum Conductors superseded by ASTM B 979. - New item id's added for ASCR Ortolan, Cardinal and ACAR 1024.5 - Removed reference to MS2400

Attachment 4
SP.06.01.420 – “Porcelain and Toughened Glass Insulators”

Porcelain and Toughened Glass Insulators

Table of Contents

Insulators shall comply with the ANSI 29.2 standards, in addition to the governing requirements listed below:

1 GENERAL REQUIREMENTS

1.1 Insulators shall be one of three ball-and-socket type classes with given strength ratings listed in Table 1.

Table 1

ANSI CLASS	COMBINED MECHANICAL & ELECTRICAL STRENGTH	TENSION PROOF
52-3	20,000 lbs	10,000 lbs
52-5	30,000 lbs	15,000 lbs
52-11	50,000 lbs	25,000 lbs

1.2 The shell of the insulator shall be made up of wet-process porcelain or of toughened glass. The decision of which material to use shall be at the discretion of National Grid.

Wet-process porcelain insulators shall be of grey or brown color. The color shall be determined by National Grid. If gray is required it shall be in accordance to ANSI C29.2.

Toughened glass insulators shall be of clear glass colour unless otherwise specified by National Grid.

1.3 The shell diameter dimension “B”, as shown in Table 3 and Figure 2 of ANSI 29.2, shall have nominal values shown in Table 2 below.

Table 2

ANSI CLASS	NOMINAL DIAMETER
52-3	10 in
52-5	10 in
52-11	11 in

1.4 Insulator units shall be packed and marked in crates. The design of crates shall prevent direct insulator pin impact and disc damage during transportation and on-site handling.

Each box or container shall be marked with the number of insulators contained in it, the ANSI class number or description of the contents, and the manufacturer's name. Each crate shall contain 6 insulator units.

2 CONFLICT

If any conflict exists between the "General Requirements" provided in Section 1.0 of this specification and ANSI 29.2, the "General Requirements" section shall govern.

3 FORMS AND RECORDS

The supplier shall meet the requirements of PR.06.01.020 Type Registration.

4 REFERENCES

References to standards are made within this specification. The following specifications and codes in their latest revisions are incorporated as part of this specification. Additional standards are referenced within these standards.

ANSI C29.2	Insulators—Wet-Process Porcelain and Toughened Glass—Suspension Type
PR.06.01.020	Type Registration

Revision History

Version	Date	Revision	Author	Reviewer	Approver
1.0	03/25/10	Initial Issue	Natasha Deschene	Jeremy Cote	Mark Browne
2.0	03/31/11	Combine specification for Glass and Porcelain insulators; Revised specification to comply with ANSI C29.2 and additional general requirements	Natasha Deschene		Mark Browne